THE

ANTHROPOMETRIC TABLES

——OF——

AMHERST COLLEGE.

1892.

THE

RESULTS OF ANTHROPOMETRY.

AS DERIVED FROM THE MEASUREMENTS OF THE STUDENTS

IN AMHERST COLLEGE.

A PAPER PRESENTED TO THE AMERICAN ASSOCIATION FOR THE AD-
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PHYSICAL MEASUREMENTS AS AFFORD-
ING A BASIS FOR THE DETERMINA-
TION OF THE IDEAL MAN.

More than a century ago, Sir Joshua Reynolds in England used this language :

" From reiterated experience and a close comparison of the objects of nature, the artist becomes possessed of a central form from which every deviation is deformity. * * * * And as there is one general form which belongs to the human kind at large, so in each of these classes there is one common idea and central form which is the abstract of the various individual forms belonging to that class. But I must add further, that though the most perfect forms of each of the general divisions of the human figure are ideal, and superior to any individual forms of that class, yet the highest perfection of the human figure is not to be found in any one of them. It is not in the Hercules, nor in the Gladiator, nor in the Apollo ; but in that form which is taken from them all, and which partakes of the activity of the Gladiator, of the delicacy of the Apollo, and the muscular strength of the Hercules."

The object of this article is not to exhibit on paper or in figures the ideal human form, but believing there is an ideal form as conceived in the Divine mind, and that this ideal is by no means as yet present to us in the bodies of our young men ; but to show that the studies here presented may give us some glimpses of this ideal, and how we may approximate to it. Or, perhaps it is better to say that these studies show us what is the best human form and propor-tion as it actually exists to-day, and then from the special and pecu-liar excellencies as brought out in these researches, we can set our-selves to work to see if we cannot elevate the average to a higher ideal.

But firstly let us bring up a little past history of the study of the human form in ideal.

The Sanscrit manuscript written in the early Christian centuries is the oldest literature on this subject. It is called the Silpi Sastri, and with great exactness and precision divides the human body into nine portions, and 480 parts.

The hair,	15
The face,	55
The neck,	25
The chest,	55
From the chest to the navel,	55
Thence to the pubes,	53
" " knee,	90
The knee itself,	30
The leg and foot,	102
	——
	480

And by a most " occult " administration of a tangle of squares, circles and triangles it was " demonstrated " in this manuscript what the perfect human form might be expected to resemble.

A Greek sculptor Polykleitus about 400 years B. C. has left a treatise called the " canon " on human proportions. This was illustrated by a marble statue called Doryphorus, or Spear Bearer, which was said to have been of " perfect proportions." But the model has disappeared.

Phidias, still later, employed twenty models, borrowing from each of them the most beautiful parts " permitting him to arrange them with all the necessary strength and dignity."

And other schemes have been devised, and have perished, by other lesser lights among artists ancient and modern, endeavoring to tell us what is the perfect or ideal human form.

But near the beginning of the present century, as scientific methods have come to the front to confirm or overthrow theory as it may be true or false, the artistic conception has been asked to wait a little while, until patient, plodding, scientific investigation shall show us what we now have on hand to enable us to try and construct the artistic ideal.

And the first investigator in this field of research is no less a man than Baron L. A. G. Quetelet of Belgium, in the prime of his activities from 1850 to 1870. His work which we find under the different captions of " proportions," " superficial extent," " development," " measure of the different faculties" and " theory of probabilities of the human body " he most carefully carried out by observation, experiment, and use of the doctrine of means and averages over an immense field of investigation. And to Baron Quetelet we must give the title of the Father of Anthropometry.

Since the year 1884, the American Association for the Advancement of Physical Education has received, and there have been read at its annual meetings many papers on anthropometry and its kindred subjects. It has also adopted a definite method of ascertaining the proportions of the human body mainly as derived from measurements made in colleges, schools and the Y. M. C. associations.

Working in the very close direction of the method adopted by this association, the Department of Physical Education in Amherst College has been making a prolonged and careful study of the physical statistics of all of the nearly 3000 students who have been connected with this Institution during the last thirty years. The results of study have been carefully preserved, collected and tabulated in several different ways, and the most important of them are appended to this paper. It has not, however, been the design in it all, to labor according to any preconceived theory or model, but merely to gather together the facts, and then find out the law or method which they seem to outline or foreshadow.

This large mass of measurements has been looked at, arranged and tabulated in the following different ways.

The first one is in the common method of taking the AVERAGE of each item of all the students measured. This means, adding together the measures of each student, and then dividing the amount by the total number of students observed. This is to be found under the table of THE AVERAGE STUDENT.

As twenty-one years is considered by common law to be the date of arriving at full manhood, the measurements of those who were between TWENTY-ONE AND TWENTY-TWO YEARS OF AGE are arranged and exhibited under the table THE STUDENT TWENTY-ONE YEARS OLD.

For the sake of further unfolding the subject, these measurements have been arranged and tabulated according to the doctrine of MEANS, OR, OF MEAN PROPORTIONS. The method of securing this, is, to arrange all the items in groups with a common difference, from the least to the greatest, when we readily find the group with the largest number, which represents the MEAN number of the whole. This is found under table 3, or the one OF THE STUDENT OF MEAN PROPORTIONS.

Another way of illustrating these results is the grouping of all the items by the AGES OF THE INDIVIDUALS. The ages as studied here have been from sixteen to twenty-six. This is THE TABLE OF AGES.

The PERCENTILE METHOD is another way of expressing the results of these measurements. This method is analogous to that of the

" means." The items here are all arranged in order from the greatest to the least, when five per cent. are counted off for the first division, ten more for the second, and so on down to fifty per cent., which corresponds very closely with the " average," or " mean," as already described. These five divisions indicate a measure above the fifty per cent. Then another division of ten per cent. indicates forty per cent. below the fifty per cent. division ; and another ten, per cent, thirty more below, and so on to the minimum of five per cent.

The last table is that with STATURE for a basis of comparison. Here all the items are grouped together under the differing body heights, from the lowest to the highest with the variation of one centimeter, or about half an inch in each group. For instance, taking the lowest group measuring 1600 m. m. or 63 inches, all men of this height—1600 to 1609— are tabulated together and each of the fifty-four items averaged to secure the standard of measurements for men of the heighth of 1600 m. m., or 63 inches. Then the other heights, 1610, 1620 and so on up to 1830 m. m., or 72 inches, are tabulated in the same manner. This is the table represented BY HEIGHTS.

Thus are brought side by side six different ways of studying the anthropometric results obtained from the students of Amherst College. And it certainly is both instructive and interesting to see the close relation of results in these different methods, and very likely if we feel that we must adopt one of these several methods, we shall have to be on our guard lest we should need the advice of the countryman to the traveler who inquired which was the best of three roads before them, "all of them lead you there, but whichever one you take before you get there you'll wish you had taken the other."

For, without doubt, age, weight, stature and per cent. are each important factors in this problem, when we are to treat it in a cosmopolitan manner. But for educational and developmental study, where so much of the need of physical training now lies, for the training, strengthening and developing weak and poorly developed bodies, the STANDARD OF STATURE seems the safest and surest to work from. The painter and sculptor certainly makes his dimensions of size according to the height of the subject he is placing on canvas or in marble. There are certain limits to the outline of the tall person which he would not give to a shorter figure, even if the age were exactly the same. He would not add the encumbrance of fat to the figure short and chubby, even though the theory was ever so strong that just so much adipose must be there all the same, no matter

what the lengths of the bone so warmly covered up might be. And it seems rational to suppose that the capacity and size of the vital organs, and the strength of the muscles, to move the longer or shorter levers will be proportioned to the length of trunk and limb, rather than to the mere weight of the tissues. Also the facts are established, beyond doubt, long ago, that the size of the lungs and some other vital organs, depends in each individual case upon the bodily stature, so many additional cubic inches of lung capacity for each inch of stature. And as strength of muscle depends on the number rather than the length of its fibers, we shall see that the long arm or leg needs a thicker muscle to move it than does a shorter one. Hence the trunk, arm or leg of the person a little longer than another of exactly the same age or weight, would require a little longer girth measure, to endue it with the strength proportioned to the size.

It will not, however, be right to dismiss this subject without presenting to this association the opinion of Mr. Charles Roberts, the foremost authority on anthropometry in Great Britain to-day. In treating of the subject in " index columns, age columns and result columns," he sums up the whole by saying, " the total height being the most characteristic and important measurement of the body, the arrangement of the table of heights has been made the model for all the rest."

In concluding, it seems safe to say, that the examination of the tables constructed on Bodily Stature as a datum give strong support to the idea that this element is the determining basis for an anthropometric standard whether of the ideal man, or for rational deductions and prescriptions for a better or more normal rate and quality of bodily growth.

It is a pleasure and privilege to say that the preparation and printing of these tables, and the offer of a copy to each member of this association is made possible by the endowment of a " contingent fund " for anthropometric, and its kindred work in Amherst College by Dr. Rufus P. Lincoln in New York.

BY AGE.		
16 years		
17 "		
18 "		
19 "		
20 "		
21 "		
22 "		
23 "		
24 "		
25 "		
26 "		

Anthropometric Study of the Students of Amherst College.

The black figures represent millimeters, kilograms and liters: the red, inches, pounds and cubic inches.

(In the tables below, each cell gives the black figure (metric) / red figure (imperial).)

1. TABLE OF THE AVERAGE STUDENT.

	Weight	HEIGHTS						GIRTHS																							BREADTHS										LENGTHS				STRENGTHS								Cap. Lungs	Pilosity	No. Meas.
By Age		Body	Sternum	Navel	Pubes	Knee	Sitting	Head	Neck	Chest Rep.	Chest Full	Belly	Hips	R.Thigh	L.Thigh	R.Knee	L.Knee	R.Calf	L.Calf	R.Instep	L.Instep	Up.R.Arm Contr.	Up.R.Arm	Up.L.Arm	R.Elbow	L.Elbow	R.Forearm	L.Forearm	R.Wrist	L.Wrist	Head	Neck	Shoulder	Nipples	Waist	Hips	R.Sh-Elb.	L.Sh-Elb.	R.Elb.Tip	L.Elb.Tip	R.Foot	L.Foot	Stretch Arms	Horiz.Len.	Lungs	Back	Dip	Pull	Legs	R.Forearm	L.Forearm	Total			
	61.2/134.9	1725/67.9	1410/55.5	1030/40.5	860/33.9	476/18.7	903/35.5	572/22.5	349/13.7	880/34.6	927/36.5	724/28.5	893/35.1	517/20.3	512/20.2	361/14.2	359/14.1	359/14.1	349/13.7	245/9.6	242/9.5	295/11.6	257/10.1	253/10.0	251/9.8	247/9.7	267/10.5	261/10.3	166/6.5	165/6.5	155/6.1	108/4.2	430/16.9	198/7.8	250/9.8	323/12.7	373/14.7	371/14.6	461/18.1	459/18.1	260/10.2	259/10.2	1780/70.1	1732/68.2	1.5/3.31	137/302	6	9	166/365	41/90	38/84		3.77/230		7988

2. TABLE OF THE STUDENT 21 YEARS OLD.

By Age	Weight	Body	Sternum	Navel	Pubes	Knee	Sitting	Head	Neck	Chest Rep.	Chest Full	Belly	Hips	R.Thigh	L.Thigh	R.Knee	L.Knee	R.Calf	L.Calf	R.Instep	L.Instep	Up.R.Arm Contr.	Up.R.Arm	Up.L.Arm	R.Elbow	L.Elbow	R.Forearm	L.Forearm	R.Wrist	L.Wrist	Head	Neck	Shoulder	Nipples	Waist	Hips	R.Sh-Elb.	L.Sh-Elb.	R.Elb.Tip	L.Elb.Tip	R.Foot	L.Foot	Stretch Arms	Horiz.Len.	Lungs	Back	Dip	Pull	Legs	R.Forearm	L.Forearm	Total	Cap.Lungs	Pilosity	No.Meas.
	63.1/138.8	1726/67.9	1407/55.3	1025/40.4	864/34.0	477/18.7	903/35.5	572/22.5	356/14.0	892/35.1	933/36.7	725/28.5	898/35.3	521/20.4	519/20.5	359/14.1	358/14.1	350/13.8	348/13.7	244/9.6	243/9.6	301/11.8	264/10.2	259/10.0	256/10.5	249/10.2	266/10.5	259/10.2	166/6.5	165/6.5	155/6.1	109/4.3	431/16.9	200/7.9	250/10.1	327/12.9	374/14.7	374/14.7	462/18.1	459/18.1	261/10.3	260/10.2	1794/70.6	1738/68.4	1.4/3.10	146/322	7	10	172/378	41/90	39/86		4.23/258		326

3. TABLE OF THE STUDENT OF MEAN PROPORTIONS.

By Age	Weight	Body	Sternum	Navel	Pubes	Knee	Sitting	Head	Neck	Chest Rep.	Chest Full	Belly	Hips	R.Thigh	L.Thigh	R.Knee	L.Knee	R.Calf	L.Calf	R.Instep	L.Instep	Up.R.Arm Contr.	Up.R.Arm	Up.L.Arm	R.Elbow	L.Elbow	R.Forearm	L.Forearm	R.Wrist	L.Wrist	Head	Neck	Shoulder	Nipples	Waist	Hips	R.Sh-Elb.	L.Sh-Elb.	R.Elb.Tip	L.Elb.Tip	R.Foot	L.Foot	Stretch Arms	Horiz.Len.	Lungs	Back	Dip	Pull	Legs	R.Forearm	L.Forearm	Total	Cap.Lungs	Pilosity	No.Meas.
	64.0/141.1	1720/67.7	1410/55.5	1023/40.3	860/33.9	480/18.9	910/35.8	570/22.4	350/13.8	880/34.6	925/36.4	720/28.2	890/35.0	515/20.3	510/20.1	360/14.2	360/14.2	359/14.1	350/13.8	240/9.4	240/9.4	295/11.6	260/10.2	250/9.8	250/9.8	250/9.8	260/10.2	260/10.2	165/6.5	165/6.5	154/6.0	110/4.2	430/17.0	200/7.9	250/9.8	320/12.6	370/14.6	370/14.6	460/18.1	460/18.1	260/10.2	260/10.2	1770/69.7	1730/68.1	1.2/2.64	150/331	4	10	175/386	40/88	37/82		3.90/238		2086

4. TABLE OF 50 PER CENT. MEASUREMENTS.

By Age	Weight	Body	Sternum	Navel	Pubes	Knee	Sitting	Head	Neck	Chest Rep.	Chest Full	Belly	Hips	R.Thigh	L.Thigh	R.Knee	L.Knee	R.Calf	L.Calf	R.Instep	L.Instep	Up.R.Arm Contr.	Up.R.Arm	Up.L.Arm	R.Elbow	L.Elbow	R.Forearm	L.Forearm	R.Wrist	L.Wrist	Head	Neck	Shoulder	Nipples	Waist	Hips	R.Sh-Elb.	L.Sh-Elb.	R.Elb.Tip	L.Elb.Tip	R.Foot	L.Foot	Stretch Arms	Horiz.Len.	Lungs	Back	Dip	Pull	Legs	R.Forearm	L.Forearm	Total	Cap.Lungs	Pilosity	No.Meas.
	61.6/135.8	1724/67.8	1410/55.5	1029/40.5	864/34.0	476/18.7	905/35.6	569/22.4	351/13.8	885/34.8	925/36.4	730/28.7	893/35.1	514/20.2	510/20.1	359/14.2	359/14.1	347/13.7	345/13.6	242/9.5	241/9.5	295/11.6	259/10.2	252/9.9	250/9.8	247/9.7	262/10.3	256/10.1	165/6.5	163/6.4	153/6.0	108/4.2	433/17.0	196/7.7	253/10.0	325/12.8	373/14.7	371/14.6	461/18.1	459/18.1	260/10.2	260/10.2	1789/70.4	1739/68.4	1.4/3.10	139/306	6	9	169/373	39/86	37/82	453	3.89/237		2230

5. TABLE OF AGES.

By Age	Weight	Body	Sternum	Navel	Pubes	Knee	Sitting	Head	Neck	Chest Rep.	Chest Full	Belly	Hips	R.Thigh	L.Thigh	R.Knee	L.Knee	R.Calf	L.Calf	R.Instep	L.Instep	Up.R.Arm Contr.	Up.R.Arm	Up.L.Arm	R.Elbow	L.Elbow	R.Forearm	L.Forearm	R.Wrist	L.Wrist	Head	Neck	Shoulder	Nipples	Waist	Hips	R.Sh-Elb.	L.Sh-Elb.	R.Elb.Tip	L.Elb.Tip	R.Foot	L.Foot	Stretch Arms	Horiz.Len.	Lungs	Back	Dip	Pull	Legs	R.Forearm	L.Forearm	Total	Cap.Lungs	Pilosity	No.Meas.
16 years	58.87/129.4	1716/67.47	1415/55.7	1038/40.9	866/34.1	480/18.9	888/35.0	562/22.1	344/13.5	858/33.8	897/35.3	705/27.7	854/33.6	502/19.8	498/19.6	357/14.0	358/14.1	342/13.5	339/13.3	242/9.5	241/9.5	279/11.0	250/9.8	240/9.4	245/9.6	240/9.4	253/10.0	249/9.8	166/6.5	164/6.4	154/6.1	106/4.2	418/16.4	188/7.4	246/9.7	320/12.6	374/14.7	370/14.6	466/18.3	462/18.2	263/10.3	263/10.3	1781/70.1	1733/68.2	1.31/2.9	130/286	4	8	151/333	35/77	34/75	411	3.91/239	2.17	40
17 "	59.22/130.2	1725/67.9	1411/55.5	1036/40.7	869/34.2	477/18.8	900/35.4	563/22.1	344/13.5	857/33.7	886/34.9	715/28.1	881/34.7	504/19.8	504/19.8	358/14.1	359/14.1	339/13.3	338/13.3	246/9.7	242/9.5	282/11.1	250/9.8	242/9.5	245/9.6	242/9.5	255/10.0	247/9.7	165/6.5	163/6.4	153/6.0	107/4.2	426/16.8	190/7.5	247/9.7	322/12.7	370/14.6	369/14.5	459/18.1	458/18.0	261/10.3	261/10.3	1780/70.1	1738/68.4	1.37/3.0	124/273	4	8	150/331	37/82	34/75	388	4.01/245	2.29	90
18 "	61.00/134.2	1733/68.2	1419/55.9	1040/40.9	871/34.3	481/18.9	905/35.6	565/22.2	348/13.7	867/34.1	917/36.1	725/28.5	888/34.9	512/20.2	505/19.9	359/14.1	360/14.2	344/13.5	342/13.5	244/9.6	244/9.6	290/11.4	255/10.0	248/9.7	248/9.7	254/10.0	260/10.2	252/9.9	166/6.5	164/6.4	154/6.1	108/4.2	429/16.9	192/7.5	252/9.9	323/12.7	373/14.7	373/14.7	464/18.3	464/18.3	261/10.3	261/10.3	1791/70.5	1747/68.8	1.42/3.1	135/298	5	9	158/348	46/101	36/79	420	4.11/251	2.32	220
19 "	61.59/135.4	1733/68.2	1413/55.6	1030/40.5	867/34.1	478/18.8	903/35.5	567/22.3	354/13.9	882/34.7	926/36.5	730/28.7	898/35.3	514/20.2	510/20.1	359/14.1	360/14.2	347/13.7	345/13.6	246/9.7	244/9.6	296/11.6	258/10.1	252/9.9	246/9.7	246/9.6	254/10.3	... /10.0	166/6.5	164/6.4	154/6.1	109/4.3	433/17.0	195/7.7	252/9.9	326/12.8	374/14.7	373/14.7	461/18.1	459/18.1	260/10.2	259/10.2	1787/70.4	1741/68.5	1.43/3.1	142/312	6	10	167/368	41/90	37/82	448	4.11/251	2.36	270
20 "	63.00/138.6	1731/68.1	1419/55.9	1037/40.8	869/34.2	480/18.9	907/35.7	566/22.3	356/14.0	889/34.9	929/36.6	785/28.9	899/35.4	515/20.3	514/20.2	360/14.2	360/14.2	349/13.7	348/13.6	246/9.7	245/9.6	300/11.8	262/10.3	256/10.1	252/9.9	247/9.7	263/10.3	257/10.1	166/6.5	165/6.5	154/6.1	109/4.3	437/17.2	197/7.7	253/9.9	327/12.9	374/14.7	373/14.7	463/18.2	462/18.2	262/10.3	262/10.3	1787/70.4	1764/68.7	1.57/3.5	145/319	7	10	173/380	42/92	38/84	471	4.23/258	2.41	270
21 "	63.97/140.6	1731/68.1	1412/55.4	1030/40.5	866/34.1	479/18.9	908/35.7	572/22.5	359/14.1	901/35.4	941/37.0	748/29.4	905/35.6	524/20.6	524/20.6	362/14.2	362/14.2	353/13.9	351/13.8	247/9.7	246/9.7	305/12.0	266/10.5	259/10.2	255/10.0	251/9.9	266/10.5	260/10.2	166/6.5	165/6.5	154/6.1	110/4.3	442/17.4	201/7.9	258/10.1	328/12.9	374/14.7	373/14.7	464/18.2	461/18.1	261/10.2	260/10.2	1792/70.6	1756/69.1	1.59/3.5	152/335	8	11	179/395	44/97	40/88	497	4.27/260	2.48	220
22 "	64.15/141.1	1732/68.2	1413/55.6	1031/40.6	861/33.9	477/18.8	909/35.8	569/22.4	361/14.1	909/35.8	949/37.4	755/29.7	908/35.7	525/20.7	521/20.5	363/14.3	363/14.3	354/13.9	353/13.8	249/9.8	247/9.7	308/12.1	262/10.3	256/10.1	256/10.1	252/9.9	268/10.5	261/10.3	167/6.6	165/6.5	155/6.1	110/4.3	443/17.4	203/8.0	260/10.2	336/13.2	373/14.7	373/14.7	461/18.1	461/18.1	262/10.3	262/10.3	1793/70.6	1746/68.7	1.66/3.6	153/337	8	11	175/386	44/97	40/88	503	4.35/265	2.47	150
23 "	63.02/138.6	1731/68.1	1417/55.4	1033/40.7	869/33.9	478/18.9	908/35.7	567/22.3	358/14.1	899/35.4	944/37.1	749/29.5	901/35.5	526/20.7	521/20.5	358/14.1	363/14.3	356/14.0	347/13.7	247/9.7	246/9.7	300/11.8	262/10.3	258/10.1	258/10.1	249/9.9	264/10.4	257/10.1	166/6.5	165/6.5	154/6.1	110/4.3	439/17.3	200/7.9	258/10.1	329/12.9	375/14.8	374/14.7	465/18.3	464/18.3	261/10.3	260/10.2	1788/70.4	1743/68.6	1.58/3.5	152/335	8	10	175/386	45/99	38/88	477	4.31/263	2.54	70
24 "	63.47/143.8	1732/68.2	1417/55.8	1041/41.0	869/34.2	482/19.0	915/35.7	570/22.6	363/14.3	915/36.0	959/37.8	766/30.2	915/36.0	526/20.7	522/20.5	364/14.3	366/14.4	356/14.0	355/14.0	251/9.9	249/9.8	310/12.2	270/10.6	258/10.1	258/10.1	263/10.0	269/10.6	262/10.3	167/6.6	167/6.6	155/6.1	111/4.4	446/17.5	206/8.1	264/10.4	333/13.1	379/14.9	378/14.8	467/18.3	465/18.3	263/10.3	262/10.3	1791/70.5	1752/69.0	1.61/3.5	150/331	7	10	177/390	44/97	40/88	486	4.38/263	2.88	60
25 "	65.08/143.1	1733/68.2	1414/55.7	1041/41.0	867/34.1	471/18.5	913/35.9	571/22.5	367/14.4	917/36.1	957/37.6	770/30.3	915/36.0	527/20.7	524/20.6	358/14.1	362/14.2	355/13.9	352/13.8	253/10.0	250/9.8	311/12.2	270/10.6	265/10.4	257/10.3	254/10.0	268/10.5	262/10.3	168/6.6	166/6.6	155/6.1	111/4.4	445/17.5	208/8.2	266/10.5	333/13.1	371/14.6	371/14.6	460/18.1	461/18.1	261/10.3	261/10.3	1781/70.1	1735/68.3	1.46/3.2	143/315	7	10	175/386	44/97	40/88	467	4.38/267	2.70	40
26 "	64.71/142.8	1750/68.9	1439/56.7	1041/41.0	867/34.1	487/19.2	922/36.3	570/22.4	358/14.1	894/35.2	949/37.4	749/29.5	914/36.0	519/20.4	515/20.3	359/14.1	362/14.2	351/13.8	350/13.8	249/9.8	248/9.8	305/12.0	265/10.4	259/10.2	255/10.0	252/9.9	267/10.5	260/10.2	168/6.6	167/6.6	154/6.1	111/4.4	447/17.6	205/8.1	261/10.3	335/13.2	384/15.1	382/15.0	471/18.5	470/18.5	263/10.3	262/10.3	1821/71.7	1761/69.3	1.44/3.2	150/331	7	9	179/395	43/95	39/86	489	4.45/271	2.64	20
																																																							1430

	Hips.
2	860
7	33.9
3	860
7	33.9
3	864
7	34.0
3	864
.7	34.0
08	873
.8	34.4
09	879
3.0	34.6
10	881
3.0	34.7
710	882
8.0	34.7
714	882
28.1	34.7
722	884
28.4	34.8
722	886
28.4	34.8
723	886
28.4	34.8
723	888
28.4	34.9
726	895
28.5	35.2
729	896
28.7	35.3
731	908
28.7	35.7
738	912
9.0	35.9
738	912
9.0	35.9
741	912
9.2	35.9
745	916
9.3	36.1
748	921
9.4	36.2
748	921
9.4	36.2
48	922
9.4	36.2
749	923
9.5	36.3

6. TABLE OF HEIGHTS.—1322 MEASUREMENTS.

The black figures represent millimeters, kilograms and liters: the red, inches, pounds and cubic inches.

March, 1892.

	WEIGHTS.	HEIGHTS. Sternum.	Navel.	Pubes.	Knee.	Sitting.	Head.	Neck.	Chest Repose.	Chest Full.	Belly.	Hips.	Right Thigh.	GIRTHS. Left Thigh.	Right Knee.	Left Knee.	Right Calf.	Left Calf.	Right Instep.	Left Instep.	Upper Right Arm Contr'd	Upper Right Arm.	Upper Left Arm.	Right Elbow.	Left Elbow.	Right Forearm.	Left Forearm.	Right Wrist.	BREADTHS. Head.	Neck.	Shoulder.	Nipples.	Waist.	Hips.	Right Shoulder Elbow.	Left Shoulder Elbow.	Right Elbow Tip.	Left Elbow Tip.	LENGTHS. Right Foot.	Left Foot.	Stretch of Arms.	Horizontal Length.	STRENGTHS. Lungs.	Back.	Lift.	Pull.	Legs.	Right Forearm.	Left Forearm.	Total.	CAPACITY OF LUNGS.	PILOSITY.
1600 mm. 63.0 in.	58.9 118.5	1290 50.8	947 37.4	797 31.3	425 16.7	851 33.5	559 22.0	335 13.2	851 33.5	881 34.6	702 27.7	860 33.9	500 19.7	497 19.5	341 13.4	339 13.3	325 12.8	323 12.7	231 9.1	229 9.0	275 10.8	248 9.8	244 9.6	241 9.5	237 9.3	253 10.0	248 9.8	161 6.3	151 5.9	104 4.1	413 16.2	191 7.5	245 9.6	313 12.3	349 13.7	346 13.6	480 16.9	429 16.9	242 9.5	241 9.5	1660 65.4	1610 63.4	1.3 2.9	126 278	10 287	11 75	130 68	34	31	470	3.16 193	2.2
1610 mm. 63.4 in.	54.0 118.5	1300 51.2	958 37.8	800 31.6	430 16.9	856 33.7	562 22.1	340 13.4	852 33.6	882 34.7	708 27.7	860 33.9	501 19.7	498 19.6	341 13.4	339 13.3	326 12.8	324 12.7	231 9.1	229 9.0	277 10.9	248 9.8	244 9.6	241 9.5	237 9.3	253 10.0	248 9.8	161 6.3	151 5.9	104 4.1	416 16.3	192 7.6	245 9.6	313 12.3	351 13.8	349 13.7	434 17.1	433 17.1	244 9.6	243 9.6	1690 66.5	1620 63.8	1.3 2.9	126 278	7 315	10 75	143 68	34	31	430	3.21 198	2.4
1620 mm. 63.8 in.	54.1 119.0	1300 51.2	962 37.9	810 31.9	439 17.3	869 34.2	562 22.1	340 13.4	854 33.6	888 34.9	703 27.7	864 34.0	5..	498 19.6	343 13.5	341 13.4	335 13.1	333 13.0	231 9.1	229 9.0	280 11.0	248 9.8	244 9.6	242 9.5	238 9.4	253 10.0	249 9.8	162 6.4	151 5.9	106 4.1	418 16.4	192 7.6	245 9.6	315 12.4	353 13.9	350 13.8	436 17.2	435 17.1	244 9.6	243 9.6	1690 66.6	1640 64.2	1.4 3.1	126 278	8 324	10 75	147 68	34	31	447	3.25 205	2.4
1630 mm. 64.2 in.	54.5 119.9	1320 52.0	966 38.0	812 32.0	442 17.4	870 34.3	562 22.1	345 13.6	857 33.7	900 35.4	703 27.7	864 34.0	50..	498 19.6	343 13.5	341 13.4	335 13.2	333 13.1	233 9.2	231 9.1	280 11.0	252 9.9	248 9.8	242 9.5	238 9.4	254 10.0	249 9.8	162 6.4	152 6.0	106 4.1	419 16.5	193 7.6	245 9.6	316 12.4	354 13.9	351 13.8	438 17.2	437 17.2	244 9.6	243 9.6	1690 66.5	1650 64.6	1.2 2.6	126 278	9 326	11 79	148 78	36	33	459	3.27 199	2.5
1640 mm. 64.6 in.	54.7 120.3	1330 52.2	974 38.4	814 32.1	448 17.6	880 34.5	563 22.2	345 13.6	857 33.7	900 35.4	708 27.8	873 34.4	503 19.8	498 19.6	344 13.5	342 13.3	336 13.1	334 13.1	234 9.2	232 9.1	282 11.0	253 9.9	249 9.8	242 9.5	238 9.4	254 10.0	249 9.8	162 6.4	152 6.0	106 4.1	423 16.6	193 7.6	247 9.7	316 12.4	357 14.0	354 13.9	442 17.4	441 17.4	247 9.7	246 9.7	1700 66.9	1650 64.9	1.2 2.6	126 278	8 328	9 79	149 78	36	33	430	3.38 203	2.4
1650 mm. 65.0 in.	55.5 122.1	1340 52.8	979 38.5	820 32.3	448 17.6	880 34.6	563 22.2	346 13.6	864 34.0	901 35.5	709 28.0	879 34.6	504 19.8	500 19.7	344 13.5	343 13.3	335 13.3	335 13.2	236 9.3	233 9.2	283 11.1	254 10.0	250 9.8	242 9.5	238 9.4	255 10.0	250 9.8	162 6.4	152 6.0	107 4.2	424 16.6	194 7.6	248 9.8	316 12.4	358 14.1	355 14.0	443 17.4	442 17.4	249 9.8	248 9.8	1700 66.9	1660 65.4	1.3 2.9	127 282	6 331	10 82	150 82	37	34	424	3.43 210	
1660 mm. 65.4 in.	57.3 127.1	1350 53.2	983 38.8	835 33.0	450 17.7	883 34.7	565 22.2	347 13.7	865 34.0	903 35.5	710 28.0	881 34.7	5..	503 19.8	347 13.7	345 13.6	340 13.5	338 13.4	236 9.3	233 9.2	285 11.2	254 10.0	250 9.8	245 9.6	241 9.5	256 10.1	251 9.9	162 6.4	153 6.0	107 4.2	424 16.7	195 7.7	248 9.8	361 14.2	358 14.1	356 14.0	445 17.5	444 17.5	252 9.9	251 9.9	1700 66.9	1660 65.4	1.2 2.6	128 282	7 333	11 82	151 82	37	34	423	3.50 214	2.3
1670 mm. 65.7 in.	57.9 127.3	1350 53.2	986 38.9	839 33.1	454 17.8	884 34.8	565 22.2	348 13.7	868 34.2	904 35.6	710 28.0	882 34.7	51..	506 19.9	348 13.7	346 13.6	342 13.5	340 13.4	237 9.3	235 9.2	285 11.2	254 10.0	250 9.8	245 9.6	241 9.5	257 10.1	252 9.9	163 6.4	153 6.0	107 4.2	425 16.9	196 7.7	250 9.8	318 12.4	362 14.1	359 13.9	445 13.8	454 17.5	252 9.9	251 9.9	1720 67.0	1680 66.1	1.2 2.6	129 284	8 339	10 82	154 82	37	34	460	3.52 215	2.2
1680 mm. 66.1 in.	60.1 132.0	1360 53.5	991 39.0	853 33.6	460 18.1	891 35.0	565 22.2	348 13.7	872 34.3	905 35.7	714 28.1	882 34.7	517 20.3	514 20.2	349 13.8	345 13.7	343 13.6	237 13.5	235 9.3	287 9.2	254 11.2	250 10.0	247 9.8	243 9.7	258 9.6	254 10.1	163 9.9	153 6.4	108 6.0	431 4.2	196 17.0	252 7.7	320 9.9	366 12.7	363 14.2	446 14.1	445 17.5	252 17.5	251 9.9	1720 9.9	1680 68.1	1.2 66.1	130 2.6	7 284	10 850	159 86	89 79	476	3.54 216	2.3
1690 mm. 66.5 in.	60.2 132.4	1400 55.1	1020 40.2	862 34.0	473 18.6	905 35.6	566 22.3	350 13.8	872 34.3	909 35.8	722 28.4	884 34.8	517 20.3	514 20.3	352 13.8	350 13.8	345 13.7	343 13.5	237 9.3	235 9.2	287 11.3	257 10.1	253 10.0	249 9.8	245 9.6	260 10.3	256 10.1	164 6.4	153 6.0	108 4.2	431 16.9	196 7.7	252 9.9	324 12.7	366 14.3	363 14.1	446 17.6	445 17.5	253 10.0	252 9.9	1730 68.1	1690 66.5	1.3 2.4	136 287	6 850	10 86	160 79	39	36	436	3.60 220	2.4
1700 mm. 66.9 in.	61.3 134.8	1400 55.1	1020 40.2	863 34.0	474 18.7	908 35.7	571 22.4	350 13.8	876 34.5	913 35.9	722 28.4	886 34.8	518 20.4	515 20.3	352 13.9	346 13.8	344 13.5	237 13.5	235 9.3	290 9.2	257 11.4	253 10.1	249 10.0	245 9.8	261 9.6	256 10.3	164 10.1	153 6.5	108 6.0	431 4.2	196 17.0	253 7.7	330 10.0	367 13.2	364 14.4	455 14.3	454 17.9	256 17.9	255 10.1	1770 10.0	1750 69.7	1.3 67.3	136 2.9	6 300	9 859	108 88	40 82	37	441	3.63 221	2.2
1710 mm. 67.3 in.	61.3 134.8	1410 55.1	1020 40.2	863 34.0	474 18.7	908 35.7	571 22.4	352 13.8	880 34.6	913 36.1	728 28.7	888 34.9	518 20.4	516 20.3	355 13.9	349 13.7	347 13.6	239 13.6	237 9.4	292 9.2	257 11.5	253 10.1	249 10.0	245 9.8	262 9.6	257 10.3	166 10.1	153 6.5	108 6.0	431 4.2	196 17.0	253 7.7	332 10.1	368 13.1	365 14.5	457 14.5	456 18.1	259 18.0	258 10.2	1770 10.1	1760 69.7	1.1 67.4	137 2.4	6 301	9 861	164 88	40 82	37	470	3.66 222	2.4
1720 mm. 67.7 in.	61.7 135.7	1410 55.5	1020 40.2	867 34.1	478 18.8	910 35.8	572 22.5	353 13.9	887 34.8	926 36.5	723 28.4	888 34.9	520 20.5	517 20.3	357 14.0	355 14.1	347 13.6	345 13.6	241 9.5	239 9.4	293 11.5	260 10.2	258 10.1	252 9.8	248 10.0	263 10.3	258 10.1	166 6.5	153 6.0	108 4.2	432 17.0	197 7.7	254 10.0	332 13.0	369 14.4	366 14.3	460 18.1	459 18.1	260 10.2	259 10.1	1780 70.1	1760 69.3	1.1 2.4	138 301	7 861	10 88	164 88	40	37	482	3.78 227	2.7
1730 mm. 68.1 in.	62.1 136.6	1410 55.5	1040 40.9	870 34.3	484 19.0	918 36.1	572 22.5	354 13.9	887 34.8	928 36.6	726 28.5	895 35.2	521 20.5	518 20.4	360 14.2	358 14.1	349 13.7	342 13.6	240 9.5	239 9.4	295 11.6	260 10.2	257 10.1	254 10.0	250 9.8	263 10.3	258 10.1	167 6.6	153 6.0	108 4.3	432 17.0	198 7.8	254 10.0	332 13.1	369 14.5	366 14.4	465 18.3	464 18.3	264 10.4	263 10.3	1810 70.1	1770 69.7	1.3 2.9	140 309	6 861	10 88	164 88	40	37	458	3.90 231	2.5
1740 mm. 68.5 in.	62.5 137.5	1420 55.9	1050 41.3	874 34.4	486 19.1	918 36.1	572 22.5	354 13.9	889 35.0	931 36.6	729 28.7	896 35.2	522 20.5	519 20.4	361 14.3	359 14.1	351 13.9	349 13.8	244 9.6	241 9.5	296 11.6	261 10.2	257 10.1	254 10.0	250 9.8	263 10.3	258 10.1	167 6.6	154 6.1	109 4.3	432 17.0	198 7.8	254 10.0	335 13.1	371 14.6	369 14.5	468 18.4	467 18.4	264 10.4	263 10.3	1810 70.1	1770 69.7	1.2 2.6	140 309	5 864	8 90	165 84	41	38	449	3.91 229	2.3
1750 mm. 68.9 in.	63.9 140.5	1430 56.3	1050 41.3	880 34.6	486 19.1	918 36.1	572 22.5	355 13.9	889 35.0	931 36.7	731 28.7	908 35.7	522 20.5	519 20.4	364 14.3	361 14.3	351 13.9	349 13.8	244 9.6	241 9.5	296 11.6	261 10.3	257 10.1	254 10.0	250 9.8	264 10.3	258 10.1	168 6.6	154 6.1	109 4.3	433 17.0	199 7.9	254 10.0	335 13.2	373 14.6	373 14.7	468 18.4	467 18.4	265 10.4	264 10.4	1810 70.1	1770 69.7	1.2 2.6	140 309	6 868	8 90	167 84	41	38	476	3.94 240	2.8
1760 mm. 69.3 in.	65.1 56.7	1440 17.7	1060 34.9	886 19.7	489 36.7	924 22.5	573 14.0	355 35.2	890 36.5	931 28.7	738 35.9	912 20.5	522 20.4	519 14.3	365 14.3	363 13.9	353 13.8	245 9.6	243 9.6	296 11.6	260 10.3	258 10.0	254 9.8	250 10.2	264 10.1	168 6.6	155 6.1	109 4.3	439 17.2	199 7.9	254 10.0	335 13.2	381 15.0	379 14.9	468 18.4	467 18.4	265 10.4	264 10.4	1810 71.3	1770 69.7	1.2 2.6	140 311	5 870	8 90	168 84	41	38	469	4.02 245	2.6
1770 mm. 69.7 in.	67.8 57.1	1450 41.7	1060 35.2	895 19.6	494 36.6	925 22.6	574 14.0	355 35.2	890 36.8	934 28.7	738 36.9	912 20.5	523 20.4	519 14.3	366 14.3	364 13.9	353 13.8	245 9.6	243 9.6	296 11.6	260 10.2	258 10.0	254 9.8	251 10.2	265 10.2	168 6.6	155 6.1	109 4.3	439 17.2	200 7.9	256 10.1	335 13.2	382 15.0	379 14.9	470 18.5	469 18.5	266 10.5	265 10.4	1810 71.3	1780 70.1	1.2 2.9	145 311	5 870	8 90	168 84	41	38	450	4.03 246	2.5
1780 mm. 70.1 in.	67.8 57.1	1450 42.1	1070 35.2	896 19.7	499 36.7	925 22.6	575 14.0	356 35.1	891 36.9	936 29.0	741 37.1	912 20.6	523 20.4	519 14.3	366 14.3	364 13.9	353 13.8	247 9.6	245 9.6	297 11.7	261 10.3	259 10.1	255 9.9	251 10.4	266 10.5	168 6.6	154 6.1	109 4.3	439 17.2	200 7.9	256 10.1	337 13.3	391 15.0	388 14.7	474 18.7	474 18.7	267 10.5	266 10.5	1820 71.7	1780 70.1	1.2 2.6	145 311	5 872	8 90	169 86	41	39	499	4.05 247	2.2
1790 mm. 70.5 in.	68.0 57.5	1460 42.5	1080 35.4	899 19.7	500 36.7	933 22.7	576 14.0	356 35.2	893 36.9	936 29.3	745 37.1	916 20.6	523 20.4	519 14.4	367 14.4	367 13.9	353 13.9	247 9.6	245 9.7	300 11.7	261 10.2	259 10.1	256 9.9	252 10.5	267 10.5	169 6.6	155 6.1	109 4.3	441 17.3	201 7.9	256 10.1	337 13.3	392 15.4	480 18.9	479 18.9	270 10.6	269 10.6	1850 72.8	1790 70.5	1.2 2.6	146 313	5 877	9 92	171 88	42	40	456	4.18 255	2.3
1800 mm. 70.9 in.	68.2 57.9	1470 42.9	1090 35.7	907 19.9	504 36.7	939 22.9	582 14.0	356 35.2	894 37.0	938 29.4	748 37.5	921 20.7	524 20.4	522 14.5	369 14.4	367 13.9	354 13.9	247 9.6	245 9.6	300 11.8	261 10.3	259 10.2	256 10.1	252 10.5	268 10.3	170 6.7	155 6.1	109 4.3	439 17.3	201 7.9	256 10.1	340 13.4	393 15.6	484 19.0	483 19.0	273 10.7	272 10.7	1870 73.6	1790 70.5	1.1 2.4	145 320	5 879	8 95	172 88	43	40	456	4.42 273	2.2
1810 mm. 71.3 in.	68.2 58.3	1480 42.9	1090 36.1	918 20.3	517 36.8	939 22.9	582 14.0	356 35.2	898 37.0	939 29.4	748 37.5	921 20.7	526 20.5	522 14.5	369 14.5	367 13.9	356 14.0	247 9.7	245 9.6	300 11.8	262 10.2	260 10.1	256 10.1	252 10.5	268 10.7	171 6.7	156 6.1	109 4.3	439 17.3	205 8.1	260 10.2	341 13.4	396 15.6	393 15.5	485 19.1	484 19.0	274 10.8	273 10.7	1880 74.0	1790 70.5	1.2 2.4	147 320	5 881	8 95	173 88	43	40	485	4.43 273	2.4
1820 mm. 71.7 in.	68.3 58.3	1480 42.9	1090 36.2	919 20.4	519 37.0	938 23.0	583 14.0	356 35.2	898 37.5	953 29.5	748 37.5	922 20.7	526 20.6	523 14.5	369 14.5	367 14.0	356 13.9	247 9.7	245 9.6	300 11.8	262 10.1	260 10.1	256 10.1	252 10.6	269 10.4	171 6.7	156 6.2	109 4.3	440 17.3	206 8.1	263 10.3	341 13.4	397 15.7	394 15.5	486 19.1	485 19.0	274 10.8	273 10.7	1890 74.4	1820 70.5	1.1 2.6	147 326	8 884	6 95	174 88	43	40	467	4.43 273	2.6
1830 mm. 72.0 in.	68.3 59.3	1505 44.1	1120 36.3	921 20.7	525 37.0	939 23.0	583 14.0	356 35.4	899 37.6	956 29.5	749 36.3	923 20.8	529 20.7	527 14.5	369 14.4	367 14.0	356 13.9	247 9.7	245 9.6	300 11.8	264 10.4	262 10.3	257 10.1	253 10.6	269 10.6	172 6.8	156 6.2	109 4.3	446 17.5	206 8.1	263 10.3	341 13.4	398 15.7	395 15.5	488 19.2	487 19.2	276 10.8	275 10.7	1890 74.4	1840 72.4	1.2 2.6	148 326	6 884	11 97	174 90	44	41	485	4.18 273	2.5

Anthropometric Study of the Students of Amherst College.

7. TABLE OF PERCENTAGES.—2230 MEASUREMENTS.

The black figures represent millimeters, kilograms and liters; the red, inches, pounds and cubic inches.

PER CENT.	WEIGHT.	HEIGHTS.												GIRTHS.																	BREADTHS.										LENGTHS.				STRENGTHS.								CAPACITY OF LUNGS.
		Body.	Sternum.	Navel.	Pubes.	Knee.	Sittiog.	Head.	Neck.	Chest Repose.	Chest Full.	Belly.	Hips.	Right Thigh.	Left Thigh.	Right Knee.	Left Knee.	Right Calf.	Left Calf.	Right Instep.	Left Instep.	Upper Right Arm Contr'c'd	Upper Right Arm.	Upper Left Arm.	Right Elbow.	Left Elbow.	Right Forearm.	Left Forearm.	Right Wrist.	Left Wrist.	Head.	Neck.	Shoulder.	Waist.	Hips.	Nipples.	Right Shoulder Elbow.	Left Shoulder Elbow.	Right Elbow Tip.	Left Elbow Tip.	Right Foot.	Left Foot.	Stretch of Arms.	Horizontal Length.	Lungs.	Back.	Dip.	Pull.	Legs.	Right Forearm.	Left Forearm.	Total.	
5	74.3 / 163.7	1827 / 71.9	1500 / 59.1	1109 / 43.6	936 / 36.8	523 / 20.6	954 / 37.5	593 / 23.3	384 / 15.1	969 / 38.1	1010 / 39.8	814 / 32.1	962 / 37.9	571 / 22.5	569 / 22.3	388 / 15.3	388 / 15.3	381 / 15.0	380 / 15.0	267 / 10.5	265 / 10.4	335 / 13.2	292 / 11.5	288 / 11.3	274 / 10.7	270 / 10.6	289 / 11.3	280 / 11.0	179 / 7.0	177 / 7.0	163 / 6.4	119 / 4.7	468 / 18.4	281 / 11.1	352 / 13.9	222 / 8.8	403 / 15.9	402 / 15.8	494 / 19.4	492 / 19.4	279 / 10.9	279 / 10.9	1910 / 75.2	1841 / 72.4	2.2 / 4.85	194 / 428	14	16	238 / 525	53 / 116.8	50 / 110.2	644 / 1420	4.95 / 301.9
10	71.3 / 157.0	1804 / 71.1	1480 / 58.3	1093 / 43.0	919 / 36.1	512 / 20.2	943 / 37.1	588 / 23.2	377 / 14.9	949 / 37.3	992 / 39.1	794 / 31.2	948 / 37.3	559 / 22.0	556 / 21.9	380 / 15.0	380 / 15.0	374 / 14.7	371 / 14.6	260 / 10.2	260 / 10.2	327 / 12.9	286 / 11.2	280 / 11.0	269 / 10.5	264 / 10.5	281 / 11.0	275 / 10.9	175 / 6.9	174 / 6.8	161 / 6.3	116 / 4.5	461 / 18.1	274 / 10.8	345 / 13.6	217 / 8.6	397 / 15.6	395 / 15.6	486 / 19.1	485 / 19.1	275 / 10.8	275 / 10.8	1886 / 74.2	1820 / 71.7	2.0 / 4.40	178 / 393	12	14	219 / 483	50 / 110.2	47 / 103.6	594 / 1310	4.69 / 286.1
20	67.9 / 149.6	1776 / 69.9	1454 / 57.3	1070 / 42.1	899 / 35.3	499 / 19.6	930 / 36.6	581 / 22.8	369 / 14.6	925 / 36.4	970 / 38.2	769 / 30.3	929 / 36.5	542 / 21.4	539 / 21.2	373 / 14.7	372 / 14.7	364 / 14.3	362 / 14.3	255 / 10.0	253 / 9.9	315 / 12.4	277 / 10.9	270 / 10.7	262 / 10.3	259 / 10.3	275 / 10.9	269 / 10.5	171 / 6.7	170 / 6.7	158 / 6.2	113 / 4.4	451 / 17.7	266 / 10.4	338 / 13.3	209 / 8.2	388 / 15.3	387 / 15.3	478 / 18.8	476 / 18.7	270 / 10.6	270 / 10.6	1850 / 72.8	1789 / 70.4	1.7 / 3.64	160 / 353	10	12	199 / 439	46 / 101.4	43 / 94.8	542 / 1194	4.42 / 269.6
30	65.4 / 144.1	1756 / 69.1	1439 / 56.7	1057 / 41.6	886 / 34.8	461 / 19.3	921 / 36.2	577 / 22.7	360 / 14.2	910 / 35.8	954 / 37.5	752 / 29.6	915 / 36.0	531 / 20.8	529 / 14.5	368 / 14.5	369 / 14.1	359 / 14.0	356 / 14.0	250 / 9.8	249 / 9.7	308 / 12.1	270 / 10.7	264 / 10.5	259 / 10.3	254 / 10.0	270 / 10.6	264 / 10.5	169 / 6.6	168 / 6.6	156 / 6.1	111 / 4.4	445 / 17.5	261 / 10.2	333 / 13.1	204 / 8.0	382 / 15.0	380 / 15.0	472 / 18.6	471 / 18.5	266 / 10.5	266 / 10.5	1829 / 72.0	1769 / 69.6	1.6 / 3.52	150 / 331	8	11	184 / 406	43 / 94.8	41 / 90.4	507 / 1117	4.22 / 257.4
40	63.5 / 140.0	1739 / 68.5	1422 / 56.0	1040 / 40.9	874 / 34.5	483 / 19.0	913 / 35.9	571 / 22.5	357 / 14.1	897 / 35.3	940 / 37.0	740 / 29.1	904 / 35.5	522 / 20.6	519 / 20.4	362 / 14.3	363 / 14.3	352 / 13.8	351 / 13.8	246 / 9.6	245 / 9.6	300 / 11.8	265 / 10.5	259 / 10.3	255 / 10.0	250 / 9.8	267 / 10.4	266 / 10.2	168 / 6.6	165 / 6.5	154 / 6.1	110 / 4.3	439 / 17.2	257 / 10.1	329 / 13.0	200 / 7.9	377 / 14.9	375 / 14.8	466 / 18.3	465 / 18.3	263 / 10.3	263 / 10.3	1808 / 71.2	1750 / 68.9	1.5 / 3.30	149 / 328	7	10	175 / 385	41 / 90.4	39 / 86.0	479 / 1056	4.03 / 245.8
50	61.6 / 135.8	1724 / 67.8	1410 / 55.5	1029 / 40.5	864 / 34.1	476 / 18.7	905 / 35.6	569 / 22.4	351 / 13.8	885 / 34.8	925 / 36.4	730 / 28.7	893 / 35.1	514 / 20.2	510 / 20.1	359 / 14.1	359 / 14.1	347 / 13.7	345 / 13.6	242 / 9.5	241 / 9.5	295 / 11.6	259 / 10.2	252 / 9.9	250 / 9.8	247 / 9.7	262 / 10.3	256 / 10.1	165 / 6.5	163 / 6.4	153 / 6.0	108 / 4.2	433 / 17.0	253 / 10.0	325 / 12.8	196 / 7.7	373 / 14.7	371 / 14.6	461 / 18.2	459 / 18.1	260 / 10.3	260 / 10.3	1789 / 70.4	1739 / 68.4	1.4 / 3.08	139 / 306	6	9	169 / 373	39 / 86.0	37 / 81.6	453 / 999	3.89 / 237.3
40	59.9 / 132.0	1710 / 67.3	1399 / 55.1	1019 / 40.1	854 / 33.6	469 / 18.4	897 / 35.3	564 / 22.2	348 / 13.7	870 / 34.3	913 / 35.9	718 / 28.3	882 / 34.7	505 / 19.9	500 / 19.7	353 / 13.9	354 / 14.0	341 / 13.5	340 / 13.4	240 / 9.4	239 / 9.4	289 / 11.4	253 / 9.9	248 / 9.7	249 / 9.8	242 / 9.5	259 / 10.2	252 / 9.9	163 / 6.4	161 / 6.3	152 / 6.0	107 / 4.2	427 / 16.8	249 / 9.8	321 / 12.7	192 / 7.6	369 / 14.5	367 / 14.4	456 / 18.0	454 / 17.9	257 / 10.1	257 / 10.1	1769 / 69.6	1723 / 67.8	1.2 / 2.64	130 / 287	4	8	157 / 346	37 / 81.6	35 / 77.2	431 / 950	3.71 / 226.3
30	57.8 / 127.4	1692 / 66.6	1380 / 54.3	1007 / 39.6	842 / 33.2	461 / 18.1	888 / 34.9	560 / 22.0	342 / 13.5	859 / 33.9	900 / 35.4	704 / 27.7	872 / 34.4	496 / 19.4	492 / 19.4	349 / 13.7	349 / 13.7	336 / 13.2	335 / 13.2	237 / 9.3	236 / 9.3	283 / 11.1	249 / 9.7	241 / 9.5	244 / 9.6	239 / 9.4	255 / 10.0	249 / 9.8	161 / 6.3	160 / 6.3	150 / 5.9	105 / 4.2	421 / 16.6	245 / 9.7	317 / 12.5	189 / 7.3	364 / 14.3	363 / 14.3	451 / 17.8	449 / 17.7	254 / 10.0	254 / 10.0	1749 / 68.8	1709 / 67.2	1.1 / 2.42	124 / 273	3	7	149 / 328	35 / 77.2	33 / 72.8	406 / 892	3.57 / 217.7
20	55.9 / 123.2	1674 / 65.8	1363 / 53.7	992 / 39.1	829 / 32.6	453 / 17.8	879 / 34.6	556 / 21.9	338 / 13.3	844 / 33.2	884 / 34.7	690 / 27.2	859 / 33.8	487 / 19.2	482 / 19.0	342 / 13.5	344 / 13.5	329 / 12.9	329 / 12.9	232 / 9.1	232 / 9.1	275 / 10.8	242 / 9.5	237 / 9.4	239 / 9.4	234 / 9.2	250 / 9.8	242 / 9.5	159 / 6.3	158 / 6.2	149 / 5.9	103 / 4.1	413 / 16.3	240 / 9.5	313 / 12.3	184 / 7.2	357 / 14.1	357 / 14.0	445 / 17.5	444 / 17.5	251 / 9.9	251 / 9.9	1725 / 67.9	1687 / 66.3	1.0 / 2.20	117 / 258	2	6	139 / 306	33 / 72.8	31 / 68.3	374 / 825	3.38 / 206.2
10	53.4 / 117.7	1647 / 64.9	1339 / 52.8	970 / 38.2	812 / 32.0	442 / 17.4	866 / 34.1	550 / 21.6	330 / 13.0	823 / 32.4	861 / 33.9	675 / 26.6	842 / 33.2	474 / 18.7	470 / 18.5	335 / 13.2	336 / 13.3	320 / 12.6	320 / 12.6	229 / 9.0	228 / 9.0	265 / 10.4	234 / 9.2	229 / 9.0	233 / 9.2	229 / 9.0	243 / 9.5	237 / 9.4	156 / 6.1	154 / 6.1	147 / 5.8	101 / 4.0	402 / 15.8	235 / 9.3	306 / 12.0	178 / 7.0	351 / 13.8	351 / 13.8	436 / 17.1	434 / 17.0	246 / 9.7	245 / 9.6	1696 / 66.7	1659 / 65.3	0.8 / 1.76	104 / 229	1	4	124 / 273	30 / 66.1	29 / 63.9	339 / 748	3.16 / 192.7
5	51.9 / 112.4	1625 / 64.1	1319 / 52.0	952 / 37.5	795 / 31.3	432 / 17.0	853 / 33.6	545 / 21.5	324 / 12.8	805 / 31.7	843 / 33.2	664 / 26.1	829 / 32.6	463 / 18.2	459 / 18.0	329 / 12.9	330 / 13.0	314 / 12.3	313 / 12.3	224 / 8.8	224 / 8.8	258 / 10.1	227 / 9.0	221 / 8.7	229 / 9.0	224 / 8.8	239 / 9.4	230 / 9.1	153 / 6.0	151 / 5.9	145 / 5.7	99 / 3.9	393 / 15.5	230 / 9.1	301 / 11.8	173 / 6.8	345 / 13.6	343 / 13.5	428 / 16.8	427 / 16.8	242 / 9.5	241 / 9.4	1670 / 65.7	1637 / 64.5	0.7 / 1.54	99 / 218	0	3	112 / 247	28 / 61.7	26 / 57.3	309 / 681	2.93 / 178.7